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March 30, 2023

Vanessa Countryman Secretary
Securities and Exchange Commission
100 F Street NE
Washington, DC 20549-0609

Re: File No. S7-31-22: Order Competition Rule

Dear Secretary Countryman,

The Biotechnology Innovation Organization (BIO) appreciates the opportunity to provide comments to the Securities and Exchange Commission's ("SEC" or "Commission") proposed rule to amend regulations governing the national market system (NMS) to add a new rule designed to promote competition as a means to protect the interests of individual investors and to further the objectives of an NMS by prohibiting a restricted competition trading center from internally executing certain orders of individual investors at a price unless the orders are first exposed to competition at that price in a qualified auction operated by an open competition trading center.¹

BIO is the world's largest life sciences trade association representing nearly 1,000 biotechnology companies, academic institutions, state biotechnology centers and related organizations across the United States and in more than 30 other nations. BIO members are involved in the research and development of innovative biotechnology products that will help to solve some of society's most pressing challenges, such as managing the environmental and health risks of climate change, sustainably growing nutritious food, improving animal health, enabling manufacturing processes that reduce waste and minimize water use, and advancing the health of our families.

BIO has serious concerns with the Commission's proposed rule, its implications for the trading of small capitalization stock shares (small stock or small cap), and the potential consequences to capital formation in public equity markets.

BIO urges the Commission to consider the potential negative effects these proposed rules can have on small, R&D-focused companies and capital formation. In this case, as in others, the SEC has not included an adequate assessment of the impact of the proposed rule on small companies and did not include an analysis of the consequences to capital formation.

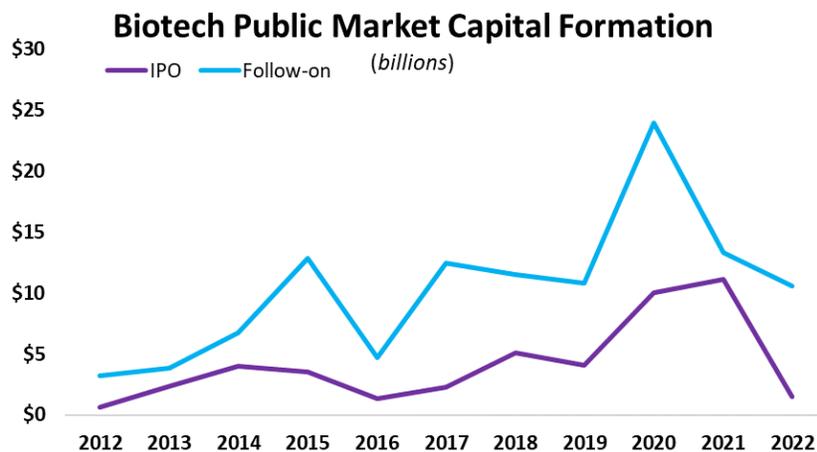
¹ <https://www.sec.gov/rules/proposed/2022/34-96495.pdf>

The Critical Role of Wholesalers in Capital Formation

BIO has significant concern that the proposed rules will remove a segment of market participants that is central to capital formation in public equity markets for small biotechs. Specifically, the rules will disincentivize wholesalers from making markets for follow-on offerings (“follow-ons”), such as at-the-market offerings (“ATMs”).

Follow-ons, such as ATMs, are the bedrock of capital formation in public equity markets for small biotechs. Every listed biotechnology company relies on follow-ons to continue financing the clinical trials necessary to bring medicines to patients.

As noted in the charts below,² follow-on issuances for biotechnology companies seeking to introduce a new drug to market exceed initial public offering raises. Since the JOBS Act of 2012, biotechnology companies have cumulatively raised \$114 billion in follow-on issuances versus \$46 billion in IPOs.

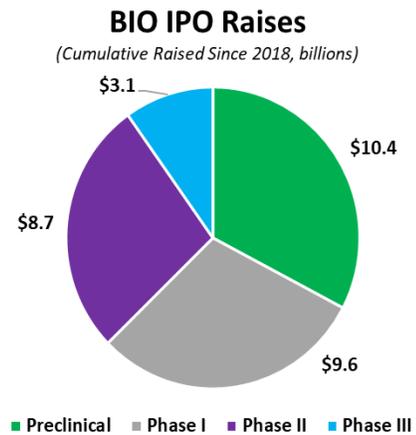
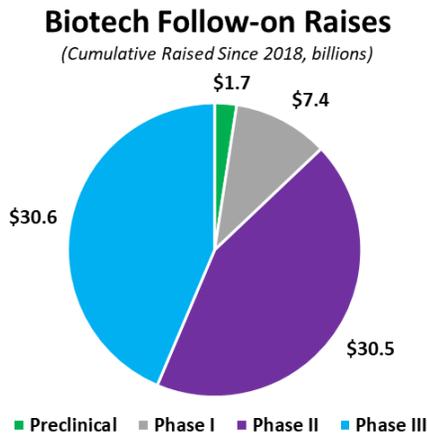


This behavior is the consequence of the lifecycle of R&D-intensive industries, such as biotechnology, that require increasing amounts of capital to be raised as drugs progress through the lengthy and progressively more expensive development process. These transactions require the presence of market-makers, or wholesalers, to provide liquidity and make markets for those additional shares.

The charts below³ illustrate the critical role public markets play in financing the advancement of clinical trials. For context, preclinical companies are those that are still in the lab, refining their product before testing its safety in humans, which is done in Phase I clinical trials and typically requires the smallest cohort of patients. Phase II clinical trials double in size relative to Phase I as they are intended to prove the effectiveness of the therapeutic in treating the target disease. Hence, Phase II trials are much larger to accommodate the intended population of patients seeking novel treatments. Phase III clinical trials are the largest trials, form the basis for an application to the FDA for approval, and can cost hundreds of millions of dollars to run as they are designed to show statistically significant efficacy and safety data for the intended population to treat.

² Follow-on Data from BioCentury and IPO Data from Nasdaq

³ Supra Note 2



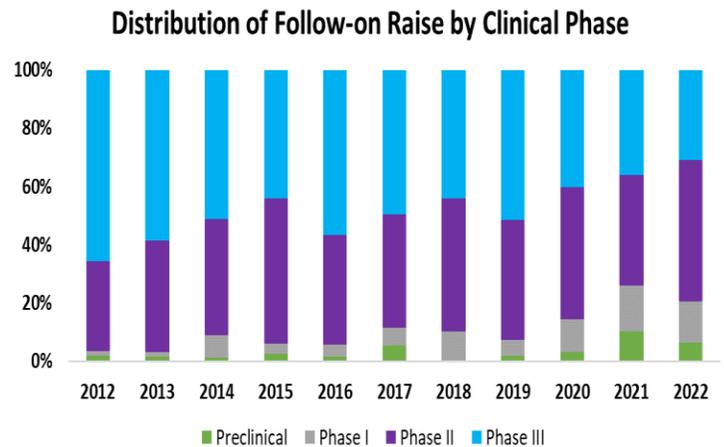
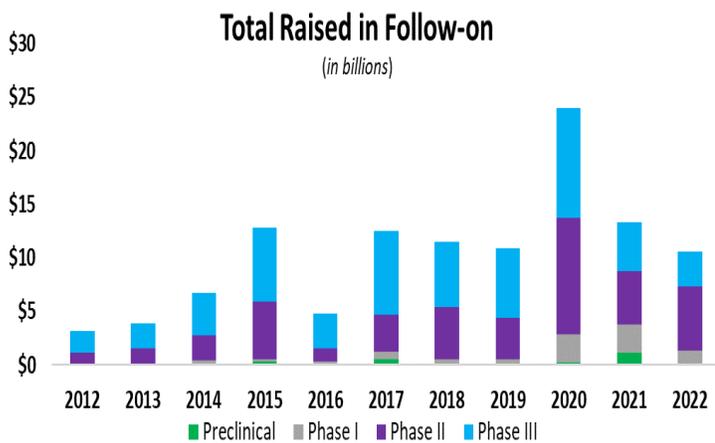
Note: The pie charts above show that small biotechs go public (IPO) to raise money to advance R&D and enter Phase I clinical trials, whereas Follow-ons are raised to advance Phase II and Phase III trials. Essentially, IPOs help small biotechs gain momentum in therapeutic development whereas Follow-ons help get therapeutics across the finish line of FDA approval and into patients. Making Follow-ons more difficult to raise kills medical innovation when it is about to get to patients.

This growing set of patient populations, spread across a multitude of hospital systems globally, requires ever greater amounts of capital to execute. Small biotechnology companies have a basic need to continuously issue follow-ons on the open market. Wholesalers play a significant role in ensuring that follow-on issuances get absorbed by the market, thus allowing small biotechs to continue with their clinical trials and bring medicine to patients. This symbiotic relationship is a critical factor in creating and maintaining the U.S. competitive advantage in the field of biotechnology.

Furthermore, wholesalers play a critical role in facilitating capital formation for clinical stage companies regardless of market conditions. As evidenced in the charts below,⁴ follow-on issuances continue to be robust even in years where there are significant market headwinds for the sector.

Since 2012, the biotechnology sector has undergone downturns, but follow-on issuances remained somewhat resilient despite adverse market conditions. In other words, despite a decline in risk sentiment towards the sector, existing clinical trials are able to continue. Wholesalers make that happen, thus playing a central role in maintaining the resilience of the biotechnology ecosystem and the advancement of science that inevitably treats millions of patients.

⁴ Supra Note 2



This intimate and fragile ecosystem is at risk with these proposed rules.

Any changes to a small biotechnology company’s ability to issue shares and raise capital will have deleterious consequences for the ability of these companies to continue clinical trials and bring medicines to patients. It is for this reason that BIO is highly concerned with the proposed rule as written.

In the 399-pages of the proposed rule, the Commission dedicated less than one page to the impact of the proposed rule on capital formation. The Commission has neglected to assess and report on the possible impacts to liquidity in the small capitalization sector of the equity market, which is home to small biotechs. BIO believes that a robust analysis of this question must be part of this rulemaking.

The Critical Role of Wholesalers in Creating Small Cap Liquidity

BIO has significant concerns that the proposed rule will have a significant and deleterious effect on small company share liquidity. BIO remains alarmed that the Commission continues to promulgate rules that disproportionately affect small companies without considering carve-outs or a balanced approach to ensuring that small companies are not adversely affected.

The proposed rules assume that asset managers and other retail-facing financial institutions will participate in proposed auctions across tens of thousands of stocks (when their main book of business is typically less than 300 stocks per day) without providing evidence that this will be the case.

The Commission also does not ensure that small stocks maintain a certain level of liquidity. Currently, small stock liquidity is mandated by the largest retail-facing financial institutions in world, but these proposed rules will remove that incentive and, therefore, may lead to a significant decline in small stock liquidity.

Money managers and institutions involved in processing biotechnology stock trades on behalf of their retail clients have told BIO that they are not prepared and not equipped to do such proposed auctions. The retail-facing institutions are not inclined to dedicate resources to ensure that all market orders are executed in the best manner possible across all stocks that are traded in a day even if those stocks may not be part of their book of business for that day.

Wholesalers already perform this market function.

This proposed rule assumes financial institutions will endeavor to become market makers for all listed stocks instead of just stocks they must trade on any given day. Institutions do not need to trade small cap stocks every day. But when they do, they do so knowing that wholesalers are there. This is why they route all of their orders to market-makers whose sole focus is ensuring the best execution at the best price for the size of the order across all stocks whenever they must be traded.

Professors Battalio and Jennings found that “Fidelity routed 99.99% of its market orders and 92.98% of its marketable limit orders to five wholesalers and Vanguard routed 100% of its market and marketable limit orders to four wholesalers.⁵”

These are among the largest retail-facing financial institutions in the world, and their “routing to wholesalers need not be driven by a monetary inducement.⁵” In fact, they chose to do so for the size improvements and price improvements that wholesalers provide.

These large retail-facing financial institutions count on market makers to fulfill orders across all of their stocks and not just the most popular. In fact, these institutions require wholesalers to take small stock orders in order to send the large volume of transactions tied to large stock trading. This is what helps to create liquidity in the small stock part of the market and is known as cross-subsidization of small stock transactions by large stock transactions.

As noted by Ernst et al. in their research paper, “*Would Order-by-Order Auctions Be Competitive?*”

“Under broker’s routing, a broker can evaluate a wholesaler on the performance across all orders, including different sizes, or stocks of different liquidity. **This enables cross-subsidization, where wholesalers may make losses trading small stocks, compensated by profits trading large stocks. Switching to order-by-order auctions can substantially decrease market maker incentives to trade small stocks.** As a result, the drop in small-stock liquidity, as well as retail investor welfare, can be particularly precipitous in smaller, less liquid stocks.⁶”

This proposal will disincentivize the very process that provides liquidity to small stocks, such as biotechnology shares. The potential for these financial institutions to no longer process small stock orders will leave a dearth of liquidity in the small stock segment of markets, which relies on this market-driven liquidity and, furthermore, allows wholesalers to make markets for follow-ons.

Further, Foley et al. analyzed a recent initiative by the Toronto Stock Exchange (TSX) that sought to improve small stock liquidity by compelling market makers to bundle large and small stock orders (known as cross-subsidization).

⁵ Robert Battalio and Richard Jennings, “Why Do Brokers Who Do Not Charge Payment for Order Flow Route Marketable Orders to Wholesalers?” (December 14, 2022)

⁶ Ernst, Thomas and Spatt, Chester S. and Sun, Jian, *Would Order-by-Order Auctions Be Competitive?* (December 13, 2022).

According to the study, “Cross-subsidization emerges as a vital channel for liquidity improvement [in small stocks]” and doing “such bundling significantly reduces trading costs in small stocks without harming large stocks.”⁷ This further validates the need for considering the effects of proposed rules on small stocks as the proposal is disincentivizing cross-subsidization of small stock order matching in the U.S. equity market.

Conclusion

BIO thanks the Commission for their hard work and intentions to create a more transparent and equitable capital market ecosystem. However, we have significant concerns with this proposed rule as there is ample evidence, both from academic research and market participants, that these rules will significantly reduce liquidity for small capitalization stocks with negative consequences for capital formation.

As we noted in this letter, biotechnology stocks tend to fall into the category of small stocks and rely on wholesalers to make markets for our shares in ordinary trading and for our follow-ons, which are needed to conduct ever larger and more expensive clinical trials. These wholesalers require incentives to provide this service, and there is ample evidence to suggest that the providers of those incentives, or the cross-subsidization mandate of retail-facing financial institutions, will no longer be in a position to continue doing so. This may lead to adverse outcomes for small stock liquidity, capital formation, and, ultimately, for patients.

We look forward to working with the Commission to consider an approach that will take into consideration small cap stocks and their need for liquidity and capital formation.

Sincerely,

Carlo Passeri
Vice President, Capital Markets and Financial Services Policy
Biotechnology Innovation Organization

⁷ Foley et al., “*Cross-subsidizing Liquidity*,” Toronto Stock Exchange (September 3, 2020)
<https://www.tmx.com/resource/en/799>